

out pulse oscillation in the chamber to excite the gas mixture and output a pulsed laser, wherein a predetermined amount of xenon gas having a predetermined concentration is supplied to the gas mixture in the chamber to lower burst and spiking phenomena caused in the pulsed laser output. --

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-- 10. An excimer laser device according to claim 9, further comprising:
a sealed xenon gas cylinder for supplying the xenon gas to the chamber;
sensing means for detecting a concentration of the xenon gas added to the gas mixture in the chamber, and
control means for controlling an amount of the xenon gas supplied from the sealed xenon gas cylinder to the mixed gas chamber based on the concentration of the xenon gas detected by the sensing means. --

-- 11. An excimer laser device according to claim 9, further comprising band-narrowing means for narrowing a band of radiated pulsed light, wherein the pulse oscillation is carried out on the basis of the narrow-band pulsed light input from the band-narrowing means into the mixed gas chamber. --

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-- 12. An excimer laser device having a mechanism for sealing a gas mixture composed of a rare gas selected from the group consisting of Kr and Ar, which is a buffer gas of Ne, and a halogen gas in a chamber and carrying out pulse oscillation in the chamber to excite the gas mixture and output a pulsed laser, wherein a xenon gas having a predetermined concentration is previously mixed with the gas mixture before it is sealed in the chamber and a predetermined amount of the gas mixture containing the xenon gas is supplied in the chamber to lower burst and spiking phenomena caused in an excimer during the pulsed laser output. --

-- 13. An excimer laser device according to claim 12, comprising band-narrowing means for narrowing a band of radiated pulsed light, wherein the pulse oscillation is carried out on the basis of a narrow-band pulsed light input from band-narrowing means into the chamber. --

-- 14. Gas for excimer laser adapted for use in an excimer laser device having a mechanism for oscillating pulsed laser by exciting gas for excimer laser sealed in a chamber, wherein the gas for excimer laser is a gas mixture of a rare gas selected from the group consisting of Kr and Ar, a buffer gas of Ne, a halogen gas, and an effective amount of xenon gas for reducing burst and spiking phenomena caused in the excimer laser device during burst operation. --

-- 15. Gas for excimer laser according to claim 14, wherein the gas for excimer laser contains 200 ppm or below of the xenon gas. --

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-- 16. Gas for excimer laser adapted for use in an excimer laser device having a mechanism for sealing gas for excimer laser in a chamber and carrying out pulse oscillation in the chamber based on narrow-band pulsed light input from band-narrowing means to excite the gas for excimer laser to output an oscillated pulsed laser, wherein the gas for excimer laser is a gas mixture of a rare gas selected from the group consisting of Kr and Ar, a buffer gas of Ne, a halogen gas, and an effective amount of xenon gas for reducing burst and spiking phenomena caused in the excimer laser device during burst operation.--

-- 17. Gas for excimer laser according to claim 16, wherein the gas for excimer laser contains 200 ppm or below of the xenon gas. --

-- 18. An excimer laser output stabilizing method for stabilizing an excimer laser output based on pulsed laser oscillation of an excimer laser device having a mechanism for sealing a gas mixture in a mixed gas chamber; the gas mixture composed of a rare gas selected from the group consisting of Kr and Ar, a buffer gas of Ne, a halogen gas, and an effective amount of xenon gas

for reducing burst and spiking phenomena caused in the excimer laser device during burst operation; and carrying out the pulse oscillation in the chamber to excite the gas mixture to oscillate pulsed laser, the method comprising the steps of:

sealing the gas mixture in the mixed gas chamber; and

supplying xenon gas into the mixed gas chamber in an amount effective for reducing burst and spiking phenomena caused in the excimer laser device during burst operation. --

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-- 19. An excimer laser output stabilizing method according to claim 18, further comprising the steps of:

sealing the xenon gas to be supplied to the chamber in a xenon gas cylinder; and

detecting a concentration of xenon gas in the mixed gas chamber, and

during the supplying of the xenon gas into the mixed gas chamber, a supply amount of the xenon gas sealed in the xenon gas cylinder and supplied to the mixed gas chamber is controlled based on the concentration of the xenon gas detected in the mixed gas chamber. --

-- 20. An excimer laser output stabilizing method according to claim 18, wherein the supply amount of xenon gas into the mixed gas chamber,

during the supplying of the xenon gas into the mixed gas chamber, is controlled so that 200 ppm or below of the xenon gas is contained in the mixed gas chamber. --

-- 21. An excimer laser output stabilizing method according to claim 18, which further comprises narrowing a band of radiated pulsed light by band-narrowing means, and carrying out the pulse oscillation based on the narrow-band pulsed light input from the band-narrowing means into the chamber. --

-- 22. An excimer laser output stabilizing method for stabilizing an excimer laser output based on pulsed laser oscillation of an excimer laser device having a mechanism for sealing a gas mixture composed of a rare gas selected from the group consisting of Kr and Ar, a buffer gas of Ne, and a halogen gas in a chamber and carrying out the pulse oscillation in the chamber to excite the gas mixture and output oscillated pulsed laser, the method comprising:

a mixing step of previously mixing a predetermined concentration of xenon gas into the gas mixture before it is sealed in the chamber; and

a gas supplying step of supplying a predetermined amount of gas mixture having the predetermined concentration of xenon gas mixed therein,

wherein the predetermined amount of gas mixture having the predetermined concentration of xenon gas mixed therein is supplied into the chamber to lower burst and spiking phenomena caused in an excimer laser output. --

-- 23. An excimer laser output stabilizing method according to claim 22, wherein the amount of gas mixture having the xenon gas supplied to the chamber is controlled so that the gas in the chamber contains an amount 200 ppm or below of the xenon gas. --

-- 24. An excimer laser output stabilizing method according to claim 22, which further comprises narrowing a band of radiated pulsed light by band-narrowing means, and carrying out the pulse oscillation based on the narrow-band pulsed light input from the band-narrowing means into the chamber. --